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# FACT SHEET

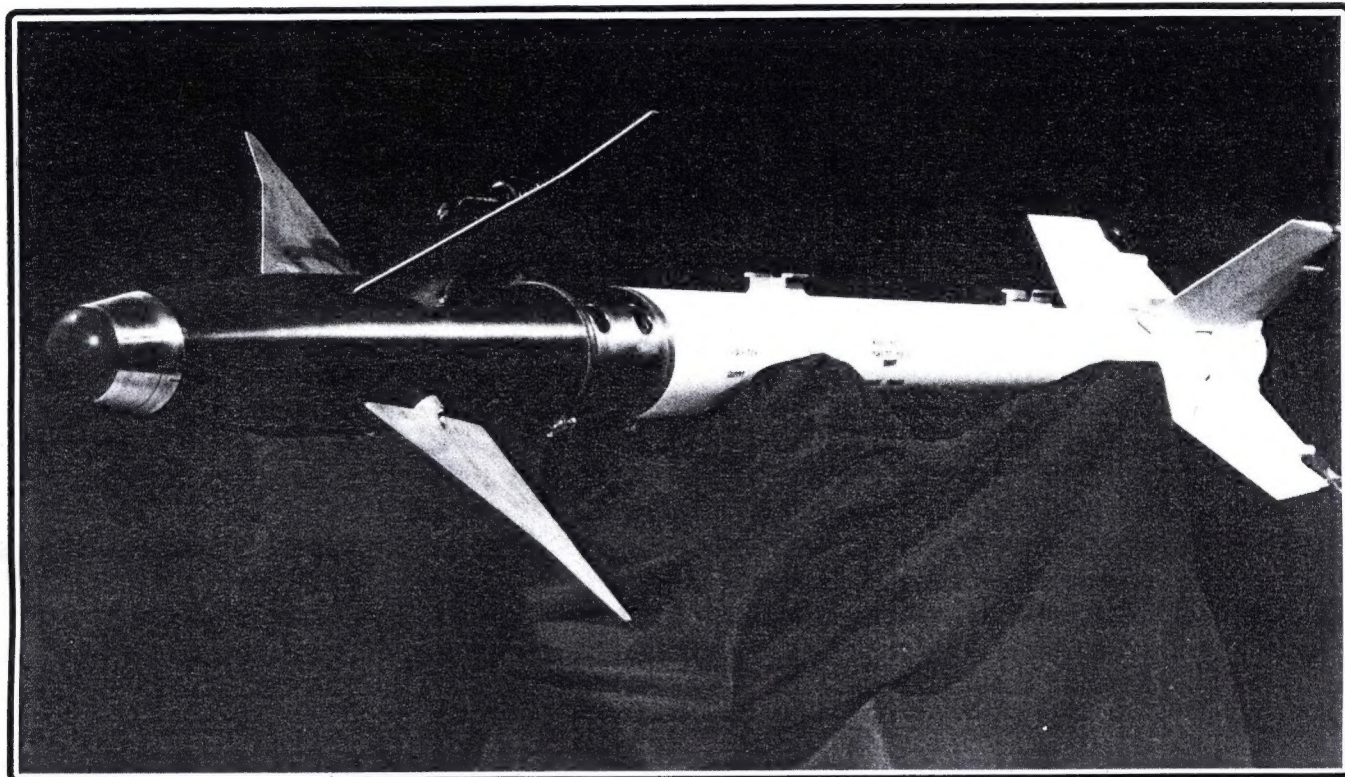
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**Secretary of the Air Force**

Office of Public Affairs

Washington D.C. 20330-1690

## *AIM-9 SIDEWINDER*



### **Mission**

The AIM-9 Sidewinder is a supersonic, heat-seeking, air-to-air missile carried by fighter aircraft. It has a high-explosive warhead and an active infrared guidance system. The Sidewinder was developed by the U.S. Navy for fleet air defense and was adapted by the U.S. Air Force for fighter aircraft use. Early versions of the missile were extensively used in the Southeast Asian conflict.

### **Features**

The AIM-9 has a cylindrical body with a roll-stabilizing rear wing/rolleron assembly. Also, it has detachable, double-delta control surfaces

behind the nose that improve the missile's maneuverability. Both rolleron and control surfaces are in a cross-like arrangement.

The missile's main components are an infrared homing guidance section, an active optical target detector, a high-explosive warhead, and a rocket motor.

The infrared guidance head enables the missile to home on target aircraft engine exhaust. An infrared unit costs less than other types of guidance systems, and can be used in day/night and electronic countermeasures conditions. The infrared seeker also permits the pilot to launch the missile, then leave the area or take evasive action while the missile guides itself to the target.



## Background

The AIM-9A, prototype of the Sidewinder, was first fired successfully in September 1953. The initial production version, designated AIM-9B, entered the Air Force inventory in 1956 and was effective only at close range. It could not engage targets close to the ground, nor did it have nighttime or head-on attack capability. These shortcomings were eliminated on subsequent versions.

The AIM-9E has an improved guidance and control system, as well as a more aerodynamic nose. This model provides greater range and enhanced low-altitude capability against maneuvering targets. Some E models are equipped with reduced-smoke rocket motors and have the designation AIM-9E-2. The AIM-9E-2 joined the Air Force inventory in 1967.

The AIM-9J, a conversion of the AIM-B and E models, has maneuvering capability for dogfighting, and greater speed and range, giving it greater enhanced aerial combat capability. Deliveries began in 1977 to equip the F-15 and other Sidewinder-compatible aircraft.

The AIM-9P, an improved version of the J model, has greater engagement boundaries, enabling it to be launched farther from the target. The more maneuverable P model also incorporated improved solid-state electronics that increased reliability and maintainability. Deliveries began in 1978.

The AIM-9P-1 has an active optical target detector instead of the infrared influence fuze; the AIM-9P-2 added a reduced-smoke motor. The most recently developed version, the AIM-9P-3, combined both the active optical target detector and the reduced-smoke motor. It also has added mechanical strengthening to the warhead as well as the guidance and control section. The improved warhead uses new explosive material that is less sensitive to high temperature and has a longer shelf life.

The AIM-9L added a more powerful solid-propellant rocket motor as well as improved

tracking maneuvering ability. An improved active optical fuze increased the missile's lethality and resistance to electronic countermeasures. A conical scan seeker increased seeker sensitivity and improved tracking stability. The L model was the first Sidewinder with the ability to attack from all angles, including head-on. Production and delivery of the AIM-9L began in 1976.

The AIM-9M, currently the only operational variant, has the all-aspect capability of the L model, but provides all-around higher performance. The M model has improved defense against infrared countermeasures, enhanced background discrimination capability, and a reduced-smoke rocket motor. These modifications increase ability to locate and lock-on a target and decrease the missile's chances for detection. Deliveries of the M model began in 1983.

The AIM-9M-7 was a specific modification to the AIM-9M in response to threats expected in the Operation Desert Shield and Desert Storm theater of operation. AIM-9M and AIM-9X are future variants currently under development.

## General Characteristics

**Primary Function:** Air-to-air missile.

**Contractor:** Naval Weapons Center.

**Power Plant:** Hercules and Bermite Mk 36 Mod 71, 8 solid-propellant rocket motor.

**Length:** 9 feet, 5 inches (2.87 meters).

**Diameter:** 5 inches (0.13 meters).

**Finspan:** 2 feet, 3/4 inches (0.63 meters).

**Warhead:** Annular blast fragmentation warhead.

**Launch Weight:** 190 pounds (85.5 Kilograms).

**Guidance System:** Solid-state, infrared homing system.

**Introduction Date:** 1956.

**Unit Cost:** Approximately \$58,000.

**Inventory:** Classified

### POINT OF CONTACT:

**Air Combat Command; Public Affairs Office;  
90 Oak St.; Langley AFB, VA 23665-2191; DSN  
574-5007 or (804) 764-5007.**

## AIR FORCE INTERNAL INFORMATION

For questions concerning this product, please call: DSN: 945-7210, or Comm: (210) 925-7210

AIR FORCE NEWS AGENCY 1015 Billy Mitchell Rd., Kelly Air Force Base, Texas 78241-5601

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